

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Previously Presented) A moisture transfer apparel to be worn by individuals engaged in activities that generate moisture comprising, on at least a portion of the apparel, a combination of layers comprising:

a first layer, closest to the individual, the first layer being an inner moisture transfer material;

a second layer, abutting the first layer, including a foam material;

a third layer, abutting the second layer, including a nonwoven material; and

a fourth layer, abutting the third layer, the fourth layer being an outer moisture transfer material that is encapsulated for waterproofing,

wherein the combination of layers is breathable and enables moisture vapor to be transferred through the apparel from the first layer through the fourth layer so as to keep the individuals dry.

2. (Original) The moisture transfer apparel according to claim 1, wherein at least two of the first, second, third and fourth layers are attached to each other by lamination.

3. (Original) The moisture transfer apparel according to claim 1, wherein at least two of the first, second, third and fourth layers are attached to each other by mechanical bonding.

4. (Previously Presented) The moisture transfer apparel according to claim 1, wherein the fourth layer is laminated to the nonwoven of the third layer.

5. and 6. (Canceled)

7. (Previously Presented) A moisture transfer apparel to be worn by individuals engaged in activities that generate moisture comprising, on at least a portion of the apparel, a combination of layers comprising:

- a first layer, closest to the individual, the first layer being an inner moisture transfer material;

- a second layer, abutting the first layer, including a foam material;

- a third layer, abutting the second layer, including a nonwoven material; and

- a fourth layer, abutting the third layer, the fourth layer being an outer moisture transfer material that is selected from fabrics that are structurally knitted or woven to repel water,

wherein the combination of layers is breathable and enables moisture vapor to be transferred through the apparel from the first layer through the fourth layer so as to keep the individuals dry.

8. (Withdrawn) A moisture transfer apparel to be worn by an individual comprising, on at least a portion of the apparel, a combination of layers comprising:

a first layer, closest to an individual, the first layer being an inner moisture transfer material;

a second layer, abutting the first layer, including a foam material;

a third layer, abutting the second layer, including a breathable membrane; and

a fourth layer, abutting the third layer, the fourth layer being an outer moisture transfer material treated by encapsulation for waterproofing,

wherein the second layer includes a non-woven material attached to the foam material such that it is between the foam material and the third layer.

9. (Withdrawn) The moisture transfer apparel according to claim 8, wherein at least two of the first, second, third and fourth layers are attached to each other by lamination.

10. (Withdrawn) The moisture transfer apparel according to claim 8, wherein at least two of the first, second, third and fourth layers are attached to each other by mechanical bonding.

11-12. (Canceled)

13. (Withdrawn) The moisture transfer apparel according to claim 8, wherein the outer moisture transfer materials are fabrics that are structurally knitted or woven to repel water.

14-16. (Canceled)

17. (Previously Presented) The moisture transfer apparel according to claim 1, wherein the second layer and third layer are formed as an elastomeric composite having the nonwoven material combined with the foam material in a single process.

18-19. (Canceled)

20. (Previously Presented) A moisture transfer apparel to be worn by individuals engaged in activities that generate moisture comprising on at least a portion of the apparel, a combination of layers comprising:

a first layer, closest to an individual, the first layer being an inner moisture transfer material; and

a second layer comprising an outer moisture transfer material comprised of natural fibers or a blend of natural and synthetic fibers that are encapsulated for waterproofing,

wherein the combination of layers is breathable and enables moisture vapor to be transferred through the apparel from the first layer through the second layer so as to keep the individuals dry.

21. (Previously Presented) The moisture transfer apparel according to claim 1, wherein the second layer is treated with microencapsulation technology which can adjust to temperature changes.

22. (Previously Presented) The moisture transfer apparel according to claim 7, wherein the second layer is treated with microencapsulation technology which can adjust to temperature changes.

23. (Previously Presented) The moisture transfer apparel according to claim 1, wherein the second layer has reversible enhanced thermal properties.

24. (Previously Presented) The moisture transfer apparel according to claim 7, wherein the second layer has reversible enhanced thermal properties.

25. (Withdrawn) A moisture transfer apparel according to claim 8, wherein the foam material is treated to have reversible enhanced thermal properties.

26. (Withdrawn) A composite for a liner used in an apparel comprising:
an inner moisture transfer material;
an open cell foam material; and
an outer layer selected from a group consisting of cotton treated by encapsulation and a cotton blend treated by encapsulation.

27. (Withdrawn) A composite for a liner used in an apparel as claimed in claim 26, wherein the foam material is treated to have reversible enhanced thermal properties.

28. (Withdrawn) A composite for a liner used in an apparel comprising:
an inner moisture transfer material;
an open cell foam material;
a non-woven material attached to the foam material; and
an outer layer attached to the non-woven material, the outer layer being selected from a group consisting of cotton treated by encapsulation and a cotton blend treated by encapsulation.

29. (Withdrawn) An apparel to be worn by an individual comprising:
an outer moisture transfer material treated by encapsulation for waterproofing;
a foam layer abutting the outer moisture transfer material; and
a non-woven material attached to the foam layer such that the foam layer is located between the non-woven material and the outer moisture transfer material, wherein the foam layer is an open cell foam and is treated to have reversible enhanced thermal properties.

30. (Withdrawn) An apparel according to claim 29, wherein the non-woven is treated to have reversible enhanced thermal properties.

31. (Withdrawn) An apparel to be worn by an individual comprising:
an inner moisture transfer material;
an open cell foam treated to have reversible enhanced thermal properties abutting the inner moisture transfer material;
a breathable membrane abutting the open cell foam; and
an outer moisture transfer material abutting the breathable membrane, the outer moisture transfer material being treated by encapsulation for waterproofing.

32. (Withdrawn) An apparel to be worn by an individual comprising:
an inner moisture transfer material;
an open cell foam treated to have reversible enhanced thermal properties abutting the inner moisture transfer material;
a breathable membrane abutting the open cell foam;
an outer moisture transfer material abutting the breathable membrane; and
wherein the outer moisture transfer material is an encapsulated cotton blend.

33. (Canceled)

34. (Withdrawn) An apparel according to claim 31, wherein the outer moisture transfer material is one of a group consisting of denim and chino fabrics.

35. (Canceled)

36. (Withdrawn) An apparel to be worn by an individual comprising:

an outer moisture transfer material which is treated by encapsulation for waterproofing; and

a cellular elastomeric composite which includes a hydrophilic open cell foam combined with a non-woven material.

37. (Withdrawn) An apparel according to claim 36, wherein the foam is treated to have reversible enhanced thermal properties.

38. (Withdrawn) An apparel to be worn by an individual comprising:
an outer moisture transfer material;
a cellular elastomeric composite which includes a hydrophilic open cell foam combined with a non-woven material;
wherein the foam is treated to have reversible enhanced thermal properties; and
wherein the outer moisture transfer material is an encapsulated cotton blend.

39. (Canceled)

40. (Withdrawn) An apparel according to claim 36, wherein the outer moisture transfer material is one of a group consisting of denim and chino fabrics.

41. (Withdrawn) An apparel to be worn by an individual comprising:
an outer moisture transfer material which is treated by encapsulation for waterproofing;

a foam layer abutting the outer moisture transfer material; and
a non-woven material attached to the foam layer such that the foam layer is located between the non-woven material and the outer moisture transfer material, wherein the foam layer is treated with microencapsulation technology which can adjust to temperature changes.

42. (Withdrawn) An apparel according to claim 41, wherein the outer moisture transfer material is an encapsulated cotton blend.

43. (Canceled)

44. (Withdrawn) An apparel according to claim 41, wherein the outer moisture transfer material is one of a group consisting of denim and chino fabrics.

45. (Withdrawn) The moisture transfer apparel according to claim 1, wherein the outer moisture transfer material is selected from a group consisting of cotton and a cotton blend.

46. (Withdrawn) The moisture transfer apparel according to claim 1, wherein the outer moisture transfer material comprises synthetic fibers.

47. (Withdrawn) The moisture transfer apparel according to claim 20, wherein the outer layer is selected from a group consisting of cotton and a cotton blend.

48. (Withdrawn) The moisture transfer apparel according to claim 20, wherein the outer layer comprises synthetic fibers.

49. (Withdrawn) A composite for a liner use in an apparel according to claim 28, wherein the open cell foam material is treated to have reversible enhanced thermal properties.

50. (Withdrawn) A composite for a liner used in an apparel comprising:

- an inner moisture transfer material;
- an open cell foam material; and
- an outer layer which comprises encapsulated synthetic fibers.

51. (Withdrawn) The composite for a liner used in an apparel as claimed in claim 50, wherein the foam material is treated to have reversible and thermal properties.

52. (Withdrawn) The moisture transfer apparel according to claim 1, further comprising a membrane, abutting the foam material, for providing either warmth or cooling.

53. (Withdrawn) The moisture transfer apparel according to claim 8, further comprising a membrane, abutting the foam material, for providing either warmth or cooling.

54. (Withdrawn) The composite for a liner used in an apparel according to claim 26, further comprising a membrane, abutting the open cell foam material, for providing either warmth or cooling.

55. (Withdrawn) The composite for a liner used in an apparel according to claim 28, further comprising a membrane, abutting the open cell foam material, for providing either warmth or cooling.

56. (Withdrawn) The apparel according to claim 29, further comprising a membrane, abutting the foam layer, for providing either warmth or cooling.

57. (Withdrawn) The apparel according to claim 26, further comprising a membrane, abutting the open cell foam, for providing either warmth or cooling.

58. (Withdrawn) The composite for a liner used in an apparel according to claim 50, further comprising a membrane abutting the open cell foam material which provides either warmth or cooling.

59. (Withdrawn) A composite for a liner used in an apparel according to claim 52, further comprising a membrane abutting the open cell foam material which provides either warmth or cooling.

60. (Withdrawn) A composite for a liner used in an apparel comprising:
an inner moisture transfer material;
an open cell foam material;
a non-woven material attached to the foam material; and
an outer layer attached to the non-woven material, the outer layer comprising encapsulated synthetic fibers.

61. (Withdrawn) A composite for a liner use in an apparel according to claim 60, wherein the open cell foam material is treated to have reversible enhanced thermal properties.

62. (Withdrawn) A composite for a liner used in an apparel comprising:
an inner moisture transfer material;
an open cell foam material;
a thermal insulating layer; and
an outer moisture transfer material treated by encapsulation for waterproofing.

63. (Withdrawn) A composite for a liner used in an apparel according to claim 62, wherein the open cell foam is hydrophilic and breathable.

64. (Withdrawn) A composite for a liner used in an apparel according to claim 63, wherein moisture is transferred in order through the inner moisture transfer material, the open cell foam material, the thermal insulation and the outer moisture transfer material.

65. (Withdrawn) A composite for a liner used in an apparel comprising:

- an inner moisture transfer material;
- an open cell foam material;
- a nonwoven material;
- a thermal insulating layer; and
- an outer moisture transfer material treated by encapsulation for waterproofing.

66. (Withdrawn) A composite for a liner used in an apparel according to claim 65, wherein the open cell foam is hydrophilic and breathable.

67. (Withdrawn) A composite for a liner used in an apparel according to claim 66, wherein moisture is transferred in order through the inner moisture transfer

material, the open cell foam material, the nonwoven material the thermal insulation and the outer moisture transfer material.

68. (Withdrawn) A composite for a liner used in an apparel according to claim 62, further comprising a breathable membrane.

69. (Withdrawn) A composite for a liner used in an apparel according to claim 65, further comprising a breathable membrane.

70. (Withdrawn) A composite for a liner used in an apparel according to claim 68, wherein the outer moisture transfer material comprises at least one of a synthetic blend and natural fibers.

71. (Withdrawn) A composite for a liner used in an apparel according to claim 69, wherein the outer moisture transfer material comprises at least one of a synthetic blend and natural fibers.

72. (Withdrawn) A composite for a liner used in an apparel comprising:

- an inner moisture transfer material;
- an open cell foam material;
- a nonwoven material;
- a thermal insulating layer; and

an outer moisture transfer material waterproofed by a waterproof film.

73. (Withdrawn) A composite for a liner used in an apparel according to claim 72, wherein the open cell foam is hydrophilic and breathable.

74. (Withdrawn) A composite for a liner used in an apparel according to claim 73, wherein moisture is transferred in order through the inner moisture transfer material, the open cell foam material, the nonwoven material, the thermal insulation and the outer moisture transfer material.

75. (Withdrawn) A composite for a liner used in an apparel according to claim 72, further comprising a breathable membrane.

76. (Withdrawn) A composite for a liner used in an apparel according to claim 75, wherein the outer moisture transfer material comprises at least one of a synthetic blend and natural fibers.

77. (Withdrawn) A composite for a liner used in an apparel according to claim 65, wherein the open cell foam material and the nonwoven material are first combined into a cellular elastomeric composite and then combined into the composite.

78. (Withdrawn) A composite for a liner used in an apparel according to claim 72, wherein the open cell foam material and the nonwoven material are first combined into a cellular elastomeric composite and then combined into the composite.

79. (Withdrawn) A composite for a liner used in an apparel according to claim 62, wherein at least one material of the composite is treated to have reversible enhanced thermal properties.

80. (Withdrawn) A composite for a liner used in an apparel according to claim 64, wherein at least one material of the composite is treated to have reversible enhanced thermal properties.

81. (Withdrawn) A composite for a liner used in an apparel according to claim 65, wherein at least one material of the composite is treated to have reversible enhanced thermal properties.

82. (Withdrawn) A composite for a liner used in an apparel according to claim 67, wherein at least one material of the composite is treated to have reversible enhanced thermal properties.

83. (Withdrawn) A composite for a liner used in an apparel according to claim 72, wherein at least one material of the composite is treated to have reversible enhanced thermal properties.

84. (Withdrawn) A composite for a liner used in an apparel according to claim 74, wherein at least one material of the composite is treated to have reversible enhanced thermal properties.

85. (Withdrawn) A composite for a liner used in an apparel according to claim 65, wherein the nonwoven material includes at least one element selected from the group consisting wood pulp, cotton, rayon, polypropylene and lycra.

86. (Withdrawn) A composite for a liner used in an apparel according to claim 67, wherein the nonwoven material includes at least one element selected from the group consisting wood pulp, cotton, rayon, polypropylene and lycra.

87. (Withdrawn) A composite for a liner used in an apparel according to claim 72, wherein the nonwoven material includes at least one element selected from the group consisting wood pulp, cotton, rayon, polypropylene and lycra.

88. (Withdrawn) A composite for a liner used in an apparel according to claim 74, wherein the nonwoven material includes at least one element selected from the group consisting wood pulp, cotton, rayon, polypropylene and lycra.

89. (Previously Presented) The moisture transfer apparel according to claim 1, wherein a membrane is applied to the second layer so that it has reversible thermal enhanced properties.

90. (Previously Presented) The moisture transfer apparel according to claim 7, wherein a membrane is applied to the second layer so that it has reversible thermal enhanced properties.

91. (Withdrawn) The moisture transfer apparel according to claim 8, wherein a membrane is applied to the foam material so that it has reversible thermal enhanced properties.

92. (Withdrawn) A composite for a liner used in an apparel according to claim 26, wherein a membrane is applied to the foam material so that it has reversible thermal enhanced properties.

93. (Withdrawn) An apparel according to claim 31, wherein the open cell foam is treated to have reversible thermal enhanced properties by application of a membrane.

94. (Withdrawn) An apparel according to claim 32, wherein the open cell foam is treated to have reversible thermal enhanced properties by application of a membrane.

95. (Withdrawn) An apparel according to claim 36, wherein a membrane is applied to the foam so that it has reversible thermal enhanced properties.

96. (Withdrawn) An apparel according to claim 38, wherein a membrane is applied to the foam so that it has reversible thermal enhanced properties.

97. (Withdrawn) A composite for a liner used in an apparel according to claim 28, wherein a membrane is applied to the foam material so that it has reversible thermal enhanced properties.

98. (Withdrawn) A composite for a liner used in an apparel according to claim 28, wherein a membrane is applied to the foam material so that it has reversible thermal enhanced properties.

99. (Withdrawn) A composite for a liner used in an apparel according to claim 60, wherein a membrane is applied to the open cell foam material so that it has reversible thermal enhanced properties.

100. (Withdrawn) A composite for a liner used in an apparel according to claim 62, wherein a membrane is applied to at least one material of the composite so that it has reversible thermal enhanced properties.

101. (Withdrawn) A composite for a liner used in an apparel according to claim 64, wherein a membrane is applied to at least one material of the composite so that it has reversible thermal enhanced properties.

102. (Withdrawn) A composite for a liner used in an apparel according to claim 65, wherein a membrane is applied to at least one material of the composite so that it has reversible thermal enhanced properties.

103. (Withdrawn) A composite for a liner used in an apparel according to claim 67, wherein a membrane is applied to at least one material of the composite so that it has reversible thermal enhanced properties.

104. (Withdrawn) A composite for a liner used in an apparel according to claim 72, wherein a membrane is applied to at least one material of the composite so that it has reversible thermal enhanced properties.

105. (Withdrawn) A composite for a liner used in an apparel according to claim 74, wherein a membrane is applied to at least one material of the composite so that it has reversible thermal enhanced properties.

106. (Withdrawn) A moisture transfer apparel according to claim 1, wherein the second layer includes a breathable membrane.

107. (Withdrawn) A moisture transfer apparel according to claim 1, wherein the third layer includes a breathable membrane.

108. (Withdrawn) A moisture transfer apparel according to claim 1, wherein the second layer includes a thermal insulating material.

109. (Withdrawn) A moisture transfer apparel according to claim 1, wherein the third layer includes a thermal insulating material.

110. (Previously Presented) A moisture transfer apparel according to claim 1, wherein at least one of the first through fourth layers has reversible enhanced thermal properties.

111. (New) A moisture transfer apparel to be worn by individuals engaged in activities that generate moisture comprising, on at least a portion of the apparel, a combination of layers comprising:

- a first layer, closest to the individual, the first layer being an inner moisture transfer material;

- a second layer, abutting the first layer, including a foam material;

- a third layer, abutting the second layer, including a nonwoven material; and

- a fourth layer, abutting the third layer, the fourth layer being an outer moisture transfer material that is encapsulated for waterproofing,

wherein the combination of layers is breathable and enables moisture vapor to be quickly transferred through the apparel from the first layer through the fourth layer so as to keep the individuals dry while they are engaged in activities that generate moisture.

112. (New) A moisture transfer technical apparel to be worn by individuals engaged in activities that generate moisture comprising, on at least a portion of the technical apparel, a combination of layers comprising:

a first layer, closest to the individual, the first layer being an inner moisture transfer material;

a second layer, abutting the first layer, including a foam material;

a third layer, abutting the second layer, including a nonwoven material; and

a fourth layer, abutting the third layer, the fourth layer being an outer moisture transfer material that is encapsulated to have water-resistant characteristics,

wherein the combination of layers is breathable and each layer is selected based upon performance characteristics that enable moisture to be transferred through the technical apparel from the first layer through the fourth layer at a rate sufficient to maintain comfort of the individuals while they are engaged in activities that generate moisture.

113. (New) A moisture transfer technical apparel for transferring moisture generated by perspiration of an individual wearing the technical apparel, the technical apparel having a combination of layers comprising:

a first layer, closest to the individual, the first layer being an inner moisture transfer material for absorbing and transferring the moisture generated by perspiration;

a second layer, abutting the first layer, including a foam material for receiving and transferring the moisture from the first layer;

a third layer, abutting the second layer, including a nonwoven material for receiving and transferring the moisture from the second layer; and

a fourth layer, abutting the third layer, the fourth layer being an outer moisture transfer material that is encapsulated to have water-resistant characteristics,

wherein each layer has technical performance characteristics with respect to breathability and moisture transfer that are suitable for moisture transfer technical apparel.